STUDY OF ALLERGIC REACTIONS TO NATURAL RUBBER LATEXGLOVES AMONG SRI LANKAN HEALTH CARE WORKERS

by

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Abstract

Allergic reactions to natural rubber latex proteins among glove using health care professionals has become a significant problem worldwide over the last few decades. However, in Sri Lanka a statistical study has never been carried out to detect allergic responses to latex proteins. The current study was undertaken in order to fill this void. The study consisted of a questionnaire based survey and determination of extractable protein content of different glove brands used by Sri Lankan health care workers.

Project sites were selected which represents an island wide cross section of Sri Lankan healthcare workers including all bio-climatic zones of Sri Lanka. An introductory leaflet and two questionnaires were prepared and distributed among 6,000 health care workers of following hospitals; Colombo south (Pilot sample), the National Hospital of Sri Lanka (bulk sample), Karapitiya, Mahamodara, Kandy, Anuradhpura, Ratnepura, Kurunegela, Badulla, Nuwara Eliya, Hambanthota, Tissamaharamaya and Tangalle hospitals. Total extractable proteins of new and re-used glove samples were determined by using BCA protein assay test kit.

Results of this study provide information on Latex Allergy (LA) and Contact Glove Dermatitis (CGD) among Sri Lankan health care workers for the first time. Results of the questionnaire survey were analyzed. Response rate of the entire population was 59%. Out of 3,526 respondents, 14% reported adverse reactions to latex gloves. The prevalence of Contact Glove Dermatitis was 13% and 5% met the criteria for Latex Allergy. Combination of LA and CGD was detected only in 4.22%. The prevalence of latex allergy and Contact glove dermatitis in this study were comparatively low when compared to the previous studies among other countries .

Statistical analysis of collected data was done by using the SAS package. According to the statistical analysis of results from this study, factors such as gender (females), longer duration of glove use on daily basis (more than 6 hours and 1-6 hours per day), different sections of hospital, presence of wheezing/asthma, hay fever, food

allergy, drug allergy, eczema, soap allergy, dust allergy and allergy to sun rays appear to be contributing (risk) factors of developing Latex Allergy and Contact Glove Dermatitis in health care workers.

Health care workers who use gloves frequently appear to be at risk of developing Contact Glove Dermatitis. There is relationship between job category (occupation) of health care workers and Contact Glove Dermatitis.

Total extractable protein levels of different glove brands were higher than the .levels, which FDA has proposed. However, it is necessary to confirm the prevalence of latex allergy in this study, by doing an evaluation test, which is a measure of IgE mediated hypersensitivity such as skin test or *ill-vitro* assay of specific IgE antibodies to the latex allergens.